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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ALMEIDA, CORY A

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/057,973	Applicant(s) ARAKI ET AL.	
	Examiner CORY A. ALMEIDA	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-19 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kostecki, US-6118572 in view of Saxe, US-4164365.

3. In regards to claim 1, Kostecki discloses an image record medium (Abstract) comprising an image record layer on which an image is recorded upon application of exposure light (Fig. 1B, 16, Col. 1, 9-65), and a functional layer formed on one side of the image record layer (Fig. 1B, 12) and having a function of transmitting the exposure light (Col. 1, 9-65).

Kostecki does not disclose expressly, the functional layer having 10% or less in visible light transmittance.

Saxe discloses a copolymer material that has a transmittance of less than 1% (Col. 16, 10-11).

At the time of the invention, it would have been obvious to one of ordinary skill in the art that the translucent substrate of Kostecki could be made of the copolymer of Saxe.

The motivation for doing so would have been that the functional layers could be made of many different materials each having different transmittances and it would have been well

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known that materials such as Saxe exist and could be substituted as the substrate of Kostecki as a design choice.

Therefore it would have been obvious to combine Saxe with Kostecki to obtain the invention specified in claim 1.

4. In regards to claim 2, Kostecki discloses the functional layer has a function of transmitting exposure light in a predetermined wavelength range (Fig. 1B, 12).

5. In regards to claim 3, Kostecki discloses the functional layer transmits the exposure light from an incidence side of the exposure light to the image record layer on an opposite side to the incidence side at least when the exposure light is applied (Fig. 1B, 12); and the functional layer shields visible light when the image recorded on the image record layer is observed (Fig. 1B, 12).

6. In regards to claim 4, Kostecki discloses the image record layer has a display layer whose optical characteristic changes upon application of voltage (Fig. 1B, 14) and a photoconductive layer whose electric characteristic changes upon application of the exposure light representing the image (Fig. 1B, 16, Col. 1, 9-65).

7. In regards to claim 5, Kostecki discloses an image record apparatus (Abstract), comprising a light application section for applying exposure light to a plurality of image record media (Fig. 1B, Light), a voltage application section for applying an image write voltage to each of the plurality of image record media (Fig. 1B, S), and a control section for controlling the light application section and the voltage application section so that exposure light representing an image is applied to the plurality of placed image record media and the image write voltage is applied to the image record medium on which the same visible image as the image is to be

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recorded (Col. 1, 9-65), wherein the plurality of image record media each for recording an image upon application of exposure light and application of a voltage and each having an image record layer on which an image is recorded upon application of exposure light and a functional layer formed on one side of the image record layer (Fig. 1B, 12) and having a function of transmitting the exposure light (Col. 1, 9-65) are stacked on each other for placement to record a visible image on each of the image record media stacked on each other for placement (Col. 1, 9-65).

Kostecki does not disclose expressly, the functional layer having 10% or less in visible light transmittance.

Saxe discloses a copolymer material that has a transmittance of less than 1% (Col. 16, 10-11).

At the time of the invention, it would have been obvious to one of ordinary skill in the art that the translucent substrate of Kostecki could be made of the copolymer of Saxe.

The motivation for doing so would have been that the functional layers could be made of many different materials each having different transmittances and it would have been well known that materials such as Saxe exist and could be substituted as the substrate of Kostecki as a design choice.

Therefore it would have been obvious to combine Saxe with Kostecki to obtain the invention specified in claim 5.

8. In regards to claim 6, Kostecki discloses the control section controls the light application section and the voltage application section so that exposure light is applied to the plurality of placed image record media and the image write voltage is applied to the plurality of placed

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image record media at the same time to record the same visible image on each of the image record media (Col. 1, 9-65).

9. In regards to claim 7, Kostecki discloses the control section controls the light application section and the voltage application section so that an image write process of applying the exposure light representing an image to the plurality of placed image record media and applying the image write voltage to the image record medium on which the same visible image as the image is to be recorded is repeated while changing to exposure light representing a different image and applying the image write voltage to a different image record medium are being conducted, thereby recording each visible image on each of the image record media (Col. 1, 9-65).

10. In regards to claim 8, Kostecki discloses the control section controls the light application section and the voltage application section so as to reset to record a uniform initial image on the image record medium before the visible image is recorded on the image record medium (Col. 6, 11-36).

11. In regards to claim 9, Kostecki discloses an image record medium (Abstract) comprising first and second image record layers on which an image is recorded upon application of exposure light (Fig. 1D, 12), and a functional layer formed on one side of the image record layer (Fig. 1D, 26) and having a function of transmitting the exposure light (Col. 1, 9-65).

Kostecki does not disclose expressly, the functional layer having 10% or less in visible light transmittance.

Saxe discloses a copolymer material that has a transmittance of less than 1% (Col. 16, 10-11).

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At the time of the invention, it would have been obvious to one of ordinary skill in the art that the mixed layer of Kostecki could be made of the copolymer of Saxe.

The motivation for doing so would have been that the functional layers could be made of many different materials each having different transmittances and it would have been well known that materials such as Saxe exist and could be substituted as the mixed layer of Kostecki as a design choice.

Therefore it would have been obvious to combine Saxe with Kostecki to obtain the invention specified in claim 9.

12. In regards to claim 10, Kostecki discloses the functional layer has a function of transmitting exposure light having a wavelength within a predetermined range (Fig. 5, Col. 4, 1-16).

13. In regards to claim 11, Kostecki discloses the functional layer transmits the exposure light from the first image record layer to the second record layer at least when the exposure light is applied (Col. 1, 9-65), the functional layer shields visible light from the first record layer to the second image record layer when the image recorded on the second image record layer is observed (Col. 1, 9-65), and the functional layer shields visible light from the second record layer to the first image record layer when the image recorded on the first image record layer is observed (Col. 1, 9-65).

14. In regards to claim 12, Kostecki discloses each of the first and second image record layers has a display layer whose optical characteristic changes upon application of voltage and a photoconductive layer whose electric characteristic changes upon application of the exposure light representing the image (Col. 5, 9 - Col. 6, 4).

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15. In regards to claim 13, Kostecki discloses the display layers of the first and second image record layers differ in threshold voltage for changing the optical characteristic (Col. 5, 9 - Col. 6, 4).

16. In regards to claim 14, Kostecki discloses an image record apparatus for recording a visible image on an image record medium (Abstract, Col 5, 9-65), comprising: an exposure section for applying exposure light to an image record medium (Fig. 1D, Light), a voltage application section for applying an image write voltage to the image record layer forming a part of the image record medium (Fig. 1D, 24), and a write control section, wherein the image record medium is recorded the image thereon upon application of the exposure light and application of the voltage (Col. 5, 9-65), the image record medium comprises first and second image record layers on which the image is recorded upon the application of exposure light (Fig. 1D, 12) and a functional layer formed on one side of the image record layer (Fig. 1D, 26) and having a function of transmitting the exposure light (Col. 1, 9-65), and the write control section controls the exposure section and the voltage application section so that when a visible image is recorded on the first image record layer on a front surface side close to the exposure section, exposure light representing the image to be recorded on the first image record layer is applied to the image record medium and write voltage and voltage improper to write are applied to the first image record layer and the second image record layer on a rear surface side away from the exposure section, respectively and that when a visible image is recorded on the second image record layer on the rear surface side, exposure light representing the image to be recorded on the second image record layer is applied to the image record medium and write voltage and voltage

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improper to write are applied to the second image record layer and the first image record layer, respectively (Col. 5, 9 - Col. 6, 36).

Kostecki does not disclose expressly, the functional layer having 10% or less in visible light transmittance.

Saxe discloses a copolymer material that has a transmittance of less than 1% (Col. 16, 10-11).

At the time of the invention, it would have been obvious to one of ordinary skill in the art that the mixed layer of Kostecki could be made of the copolymer of Saxe.

The motivation for doing so would have been that the functional layers could be made of many different materials each having different transmittances and it would have been well known that materials such as Saxe exist and could be substituted as the mixed layer of Kostecki as a design choice.

Therefore it would have been obvious to combine Saxe with Kostecki to obtain the invention specified in claim 14.

17. In regards to claim 15, Kostecki discloses the exposure section changes a light amount of the exposure light when a visible image is recorded on the first image record layer of the placed image record medium and when a visible image is recorded on the second image record layer (Col. 6, 11-36).

18. In regards to claim 16, Kostecki discloses the write control section controls the exposure section and the voltage application section so that a visible image is first recorded on the second image record layer of the placed image record medium and a visible image is next recorded on the first image record layer (Col. 5, 9 - Col. 6, 36).

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19. In regards to claim 17, Kostecki discloses before a visible image is recorded on the second image record layer of the placed image record medium, the electric voltage section applies reset voltage for resetting to record a uniform initial image at least to the first image record layer of the first and second image record layers (Col. 6, 11-36).

In regards to claim 19, Kostecki discloses when applying exposure light representing an image to the second image record layer, the exposure section applies exposure light representing a mirror image of the visible image to be recorded on the second image record layer to the image record medium (Col. 5, 9 - 65).

20. In regards to claim 19, Kostecki discloses when applying exposure light representing an image to the second image record layer, the exposure section applies exposure light representing a mirror image of the visible image to be recorded on the second image record layer to the image record medium (Col. 5, 9 - 65).

21. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kostecki, US-6118572 and Saxe, US-4164365, as combined above in view of Baraff, US-4223308.

Kostecki discloses the voltage application section records a visible image on the second image record layer while applying voltage to the first image record layer (Col. 5, 9 - Col. 6, 36).

Kostecki and Saxe do not disclose expressly each of the first and second image record layers has a display layer made of a cholesteric liquid crystal whose optical characteristic changes upon application of voltage for recording a visible image.

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Baraff discloses cholesteric liquid crystal and electrochromic material can be used interchangeably (Col. 5, 5-12) and whose optical characteristic changes upon application of voltage for recording a visible image (Abstract).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art that one could use cholesteric liquid crystal instead of electrochromic material.

The motivation for doing so would have been that liquid crystal is more widely used in consumer electronic apparatuses providing greater flexibility and accessibility for manufacturers.

Therefore, it would have been obvious to combine Baraff with Kostecki and Saxe to obtain the invention as specified in claim 18.

Response to Arguments

22. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection, as presented above.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORY A. ALMEIDA whose telephone number is (571) 270-3143. The examiner can normally be reached on Monday through Friday 8AM to 4PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CA

5/6/2009

/Henry N Tran/
Primary Examiner, Art Unit 2629